*FEDERAL RAILROAD ADMINISTRATION*

*OFFICE OF SAFETY*


# *FY 2006 Technical Training Course Catalog*

*SAFETY IMPROVEMENT & DEVELOPMENT TEAM*

# Foreword

This course catalog is provided as a service to our internal Office of Safety customers, including participating state inspectors and program managers. In addition to the cataloged courses, there may be at least one additional course on forensic passenger accident investigations for selected people. The particulars of that course are still under consideration.

The catalog includes the current FY 2006 Training Calendar, which consists of 57 classes in 23 different courses. Calendar updates will be provided if changes occur. We also offer a correspondence course for Federal Inspector Trainees hired at the GS-05 and GS-07 grade level. This correspondence course (GN 101) could also be of value to people in specialized positions, but who do not have a railroad background, such as industrial hygienists. When reviewing the catalog, please bear in mind:

1. For FY 2006, the SIDT will deliver almost all training at the BNSF Training Center on the campus of Johnson County Community College in Overland Park, Kansas. The notification memo for each class will detail lodging and transportation specifics, including rental cars for some people.

2. Technical training is based on organizational needs, and therefore considered mandatory. SIDT performs various types of analyses to determine the organizational needs, including feedback from Headquarters, the regions, and the inspectors.

3. The training is for internal Office of Safety customers. Although we may invite people from the NTSB, Transport Canada, etc., to attend on occasion, we do not provide training for external customers from other governmental or civilian organizations. We simply do not have the resources to do so.

4. Normally, we do not honor requests to attend particular courses or classes. We use a specific methodology to select Federal and State Inspectors and Specialists in a resource responsible and equitable manner. The SIDT Management Analyst manages the selection process.

5. The Report Writing for Federal Employees Course is an exception to item 4 (above). We allocate slots for these classes to the regions and permit them to select the participants.

6. The SIDT Administrative Specialist prepares training travel orders for Federal and Participating State Inspectors, Specialists, and other employees assigned to attend training. Federal employees may be required to use the GovTrip program in lieu of travel orders sometime during this fiscal year, but the program will not accommodate FRA's needs at this point in time.

7. Except for unusual circumstances, SIDT does **not** fund training for Staff Directors, Regional Administrators, or Deputy Regional Administrators. This group may attend in-house classes if they wish, but will travel on regional or Headquarters funds. The same holds true for State Program Managers, unless they also actively perform inspections. They may attend courses, but must travel at state expense.

8. When we schedule contractor training, we cannot take the groups mentioned above into account. Therefore, if someone from this group wishes to attend a contractor course, they must receive prior approval from the SIDT Coordinator. We will not use slots allotted to inspectors and specialists to accommodate people from this group.

9. Current policy is to schedule Chief Inspectors only for courses that relate to their previous discipline of expertise, general courses, or for courses developed specifically for them.

10. GS-05 and GS-07 level trainees do **not** attend formal training classes developed for journey level inspectors. We have a specific program of training, which consists primarily of one-on-one tutelage with experienced inspectors, available for trainees at these grade levels. As a rule of thumb, the same standard applies to participating state inspector trainees. GS-09 level trainees and state equivalent inspectors are scheduled for journey level training.

**FRA - Safety Improvement & Development Team**
**FY 2006 Technical Training Calendar**
**Effective Date: 09/23/2005**

| Class ID | Course ID | Course Name | Arrive | Depart | City | State |
|---|---|---|---|---|---|---|
| 0601 | GN 208 | FRA Report Writing Principles for Federal Employees | 11/14/05 | 11/18/05 | Overland Park | KS |
| 0602 | Track 206 | Track Recurrency 2005 - 2006 | 11/14/05 | 11/18/05 | Overland Park | KS |
| 0603 | GN 208 | FRA Report Writing Principles for Federal Employees | 12/05/05 | 12/09/05 | Overland Park | KS |
| 0604 | Track 206 | Track Recurrency 2005 - 2006 | 12/05/05 | 12/09/05 | Overland Park | KS |
| 0605 | MP&E 201 | MP&E Fundamentals - Phase One | 01/08/06 | 01/13/06 | Overland Park | KS |
| 0606 | GN 208 | FRA Report Writing Principles for Federal Employees | 01/09/06 | 01/13/06 | Overland Park | KS |
| 0607 | MP&E 205 | MP&E Fundamentals - Phase Two | 01/30/06 | 02/03/06 | Overland Park | KS |
| 0608 | OP 214 | OP Recurrency 2006 | 02/05/06 | 02/10/06 | Overland Park | KS |
| 0609 | GN 208 | FRA Report Writing Principles for Federal Employees | 02/13/06 | 02/17/06 | Overland Park | KS |
| 0610 | MP&E 206 | MP&E Recurrency 2005 | 02/27/06 | 03/03/06 | Overland Park | KS |
| 0611 | OP 214 | OP Recurrency 2006 | 02/26/06 | 03/03/06 | Overland Park | KS |
| 0612 | Track 207 | Track Recurrency 2006 | 03/06/06 | 03/10/06 | Overland Park | KS |
| 0613 | S&TC 201 | S&TC Fundamentals - Phase One | 03/12/06 | 03/17/06 | Overland Park | KS |
| 0614 | GN 208 | FRA Report Writing Principles for Federal Employees | 03/13/06 | 03/17/06 | Overland Park | KS |
| 0615 | MP&E 206 | MP&E Recurrency 2005 | 03/13/06 | 03/17/06 | Overland Park | KS |
| 0616 | GN 210 | Locomotive Event Recorder Analysis | 03/20/06 | 03/24/06 | Overland Park | KS |
| 0617 | MP&E 207 | MP&E Recurrency 2006 | 04/03/06 | 04/07/06 | Overland Park | KS |
| 0618 | S&TC 206 | S&TC Fundamentals - Phase Two | 04/10/06 | 04/14/06 | Overland Park | KS |
| 0619 | GN 208 | FRA Report Writing Principles for Federal Employees | 04/10/06 | 04/14/06 | Overland Park | KS |
| 0620 | OP 214 | OP Recurrency 2006 | 04/09/06 | 04/14/06 | Overland Park | KS |
| 0621 | HM 201 | Hazardous Materials Fundamentals - Phase One | 04/17/06 | 04/21/06 | Overland Park | KS |
| 0622 | MP&E 207 | MP&E Recurrency 2006 | 04/17/06 | 04/21/06 | Overland Park | KS |
| 0623 | Track 207 | Track Recurrency 2006 | 04/17/06 | 04/21/06 | Overland Park | KS |
| 0624 | GN 207 | Accident Investigation Fundamentals | 04/23/06 | 04/28/06 | Overland Park | KS |
| 0625 | GN 210 | Locomotive Event Recorder Analysis | 04/24/06 | 04/28/06 | Overland Park | KS |
| 0626 | Track 207 | Track Recurrency 2006 | 04/24/06 | 04/28/06 | Overland Park | KS |
| 0627 | S&TC 213 | S&TC Recurrency 2006 | 04/30/06 | 05/05/06 | Overland Park | KS |
| 0628 | HM 208 | Hazardous Materials Fundamentals - Phase Two | 05/01/06 | 05/05/06 | Overland Park | KS |
| 0629 | MP&E 207 | MP&E Recurrency 2006 | 05/01/06 | 05/05/06 | Overland Park | KS |
| 0630 | OP 214 | OP Recurrency 2006 | 05/07/06 | 05/12/06 | Overland Park | KS |
| 0631 | Track 207 | Track Recurrency 2006 | 05/08/06 | 05/12/06 | Overland Park | KS |
| 0632 | HM 211 | HM Recurrency 2006 (schedule with MP&E 207) | 05/15/06 | 05/19/06 | Overland Park | KS |
| 0633 | MP&E 207 | MP&E Recurrency 2006 (schedule with HM 211) | 05/15/06 | 05/19/06 | Overland Park | KS |
| 0634 | OP 214 | OP Recurrency 2006 | 05/21/06 | 05/26/06 | Overland Park | KS |
| 0635 | Track 207 | Track Recurrency 2006 | 05/22/06 | 05/26/06 | Overland Park | KS |
| 0636 | GN 208 | FRA Report Writing Principles for Federal Employees | 06/05/06 | 06/09/06 | Overland Park | KS |
| 0637 | OP 214 | OP Recurrency 2006 | 06/04/06 | 06/09/06 | Overland Park | KS |
| 0638 | S&TC 213 | S&TC Recurrency 2006 | 06/11/06 | 06/16/06 | Overland Park | KS |
| 0639 | OP 215 | Occupational Illness Reporting | 06/12/06 | 06/16/06 | Overland Park | KS |
| 0640 | Track 207 | Track Recurrency 2006 | 06/12/06 | 06/16/06 | Overland Park | KS |
| 0641 | HM 211 | HM Recurrency 2006 (schedule with MP&E 207) | 06/19/06 | 06/23/06 | Overland Park | KS |
| 0642 | MP&E 207 | MP&E Recurrency 2006 (schedule with HM 211) | 06/19/06 | 06/23/06 | Overland Park | KS |
| 0643 | S&TC 213 | S&TC Recurrency 2006 | 06/25/06 | 06/30/06 | Overland Park | KS |
| 0644 | Track 201 | Track Fundamentals - Phase One | 06/25/06 | 06/30/06 | Overland Park | KS |
| 0645 | OP 213 | Operational Testing & Human Performance Science | 06/25/06 | 06/30/06 | Overland Park | KS |
| 0646 | S&TC 213 | S&TC Recurrency 2006 | 07/09/06 | 07/14/06 | Overland Park | KS |
| 0647 | HM 211 | HM Recurrency 2006 (schedule with MP&E 207) | 07/10/06 | 07/14/06 | Overland Park | KS |
| 0648 | MP&E 207 | MP&E Recurrency 2006 (schedule with HM 211) | 07/10/06 | 07/14/06 | Overland Park | KS |
| 0649 | Track 205 | Track Fundamentals - Phase Two | 07/16/06 | 07/21/06 | Overland Park | KS |
| 0650 | S&TC 213 | S&TC Recurrency 2006 | 07/23/06 | 07/28/06 | Overland Park | KS |
| 0651 | OP 201A | OP Fundamentals - Phase One | 07/24/06 | 07/28/06 | Overland Park | KS |
| 0652 | Track 207 | Track Recurrency 2006 | 07/24/06 | 07/28/06 | Overland Park | KS |
| 0653 | GN 207 | Accident Investigation Fundamentals | 07/30/06 | 08/04/06 | Overland Park | KS |
| 0654 | HM 211 | HM Recurrency 2006 (schedule with MP&E 207) | 07/31/06 | 08/04/06 | Overland Park | KS |
| 0655 | MP&E 207 | MP&E Recurrency 2006 (schedule with HM 211) | 07/31/06 | 08/04/06 | Overland Park | KS |
| 0656 | GN 202 | Investigative Skills Fundamentals | 08/07/06 | 08/11/06 | Overland Park | KS |
| 0657 | OP 207A | OP Fundamentals - Phase Two | 08/21/06 | 08/25/06 | Overland Park | KS |

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *GN 101* | *N/A* | *None* | *Contractor* |

***Course Name***

The Railroad - What It Is, What It Does

***Description and Objectives***

Description: This is a correspondence course from The Railway Educational Bureau (REB) that will be completed by all grade level GS-5 or GS-7 FRA inspector trainees. This course explores the railroad industry from A to Z, with illustrations and diagrams helping explain the evolution of the railroad industry, changes in signal and communication technology, maintenance, and design engineering. The ever-changing face of rail passenger service is described, as is intermodal traffic. The course book also examines the administration, law, accounting, and deregulation of the railroad, making it a valuable single volume of railroad information.

The objective of this course is to provide a basic understanding of what a railroad is. The course includes the following eight modules:

1. Railroad Technology, The Route System.
2. The Track: Alignment and Structure.
3. The Locomotive.
4. The Railroad Car and the Train.
5. Signals and Communication, Railroad Operation.
6. Car Types, Terminal Operations, Classification and Blocking.
7. Shipping, Unit-Trains, Intermodal Traffic, Rail Passenger Services.
8. Railroad Organization.

Regional managers should notify Barbara Hall, SIDT Management Analyst, via e-mail when a person is employed as a GS-05 or GS-07 level inspector trainee. Ms. Hall will arrange to send the course to the appropriate region for assignment. The Railway Educational Bureau will grade the lessons and send the results to the FRA Supervisor for review.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *GN 202* | *24* | *None* | *FRA* |

***Course Name***

Investigative Skills Fundamentals

***Description and Objectives***

Description: This course is for those who are expected to perform an FRA investigation. The course focuses on developing interviewing, photography, and note taking skills. The course consists of interactive lectures and a field trip. Practical exercises are built around a grade crossing accident scenario. Each class will be monitored by a FRA training specialist to ensure field trip safety and to answer questions about FRA's witness interviewing policies.

Objectives: At the completion of the course, participants will be able to:

1. Use their FRA provided cameras to photograph an accident site.
2. Prepare notes including a photo log.
3. Conduct an interview.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *GN 207* | *30* | *GN 202* | *FRA* |

***Course Name***

Accident Investigation Fundamentals

***Description and Objectives***

Description: This course is intended for anyone who may be assigned to perform an FRA accident investigation. There are 10 learning modules covering FRA's statutory and regulatory authority to conduct investigations, communication guidelines, fatigue and crew resource management techniques for listing and prioritizing information gathering objectives, note taking and interviewing skills reinforcement, alcohol & drug involvement, locomotive event recorders, hazardous materials involvement, and FRA accident reporting requirements.

The course consists of a series of short interactive lectures using slide presentations and participant guides, followed by practical exercises for each of the modules. A building block concept is used for the practical exercises so that the learning lessons are reinforced throughout the course. There is a 25 question pre and post test designed to evaluate participant knowledge levels at the beginning and ending of the course.

Objectives: At the completion of the course, participants will be able to:

1. Recognize their statutory and regulatory authority to investigate accidents.
2. Analyze accident reports submitted by railroads to FRA.
3. Explain circumstances where fatigue may be a causal factor.
4. Understand the Threat and Error Management Model.
5. Use recognized investigative techniques to list and prioritize objectives.
6. Identify note taking and interview requirements, policies, and techniques.
7. Recognize when locomotive event recorder data, alcohol and drug involvement, and hazardous materials involvement must be included in reports.
8. Prepare an FRA F6180.39 Factual Railroad Accident Investigation Report.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *GN 208* | *22* | *None* | *FRA / Contractor* |

### *Course Name*

FRA Report Writing Principles for Federal Employees

### *Description and Objectives*

Description: This three-day course is intended for Federal Office of Safety Field Employees who are required to write and edit reports. The first day is a grammar refresher workshop delivered by a contractor with a minimum of a Master's Degree in English and adult teaching credentials. The second day includes modules on editing, general writing principles, and planning and organizing FRA reports. Students practice writing and editing sections of accident and complaint investigative reports on the third and final day.

Objectives: At the completion of the course, participants will be able to:

1. Use grammar rules more effectively.
2. Write sentences and paragraphs following the principles of clear and concise government writing.
3. Apply editing techniques to their own writing.
4. Plan and organize FRA reports.
5. Write reports that will be clear to the reader at the first reading.
6. Revise and edit reports using automated word processing program features.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *GN 210* | *24* | *None* | *FRA and BNSF* |

***Course Name***

Locomotive Event Recorder Analysis

***Description and Objectives***

Description: This course is intended for selected Motive Power & Equipment, and Operating Practices Inspectors. The course will consist of lectures, each followed by a practical exercise. The training will provide an overview of when locomotive event recorders are required, the standard functions of locomotive event recorders, the basic requirements of train operations over a rail-highway crossing at grade and how to read and analyze certain locomotive event recorder data. Actual locomotive event recorder print outs will be utilized extensively in practical exercises.

Objectives: At the completion of the course, participants will be able to:

1. Determine when an event recorder is required on a locomotive.
2. Describe what events must be monitored and recorded on an in service event recorder. .
3. Identify requirements of Part 229 regarding maintenance, testing, and equipment requirements for locomotive event recorders.
4. Identify whistle and bell requirements for trains approaching and moving onto a highway-rail crossing at grade.
5. Identify requirements of Part 234 regarding trains approaching and moving onto a highway-rail crossing at grade after a credible report of a warning malfunction.
6. Analyze recorded events for law enforcement officers if assigned by FRA.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *HM 201* | *24* | *None* | *FRA* |

### *Course Name*

Hazardous Materials Fundamentals - Phase One

### *Description and Objectives*

Description: This course provides recently hired journey level Federal and State Hazardous Materials Inspectors, and GS-9 level HM Trainees with the knowledge, skills and abilities necessary to perform inspections at their grade level. The course is an overview of the following: Hazmat Compliance Manual, FRA Field Orientation and Training Guide, AAR Specification for Tank Cars - M1002, and 49 CFR Parts 171, 172, 173, 174, 178, 179 and 180.

This course consists of a series of short interactive lectures using a slide presentation and participant guides, followed by practical team exercises for each learning module. Practice exercises will consist of situational scenarios and group discussions. There is a multiple choice pre and post test designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the completion of this course, participants will be able to:

1. Apply appropriate FRA Hazmat regulations when performing site inspections.
2. Recognize deviations from the regulations.
3. Prepare an F6180.96 inspection report based on a given scenario.
4. Identify railroad and/or shipper responsibility for achieving compliance.
5. Understand inspector discretion when considering civil penalty recommendations.
6. Recall appropriate reference source documents for guidance.
7. Calculate the filling limits/density requirements for loading tank cars.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *HM 208* | *24* | *None* | *FRA* |

### *Course Name*

Hazardous Materials Fundamentals - Phase Two

### *Description and Objectives*

Description: This course is intended for all Federal and State Hazmat Inspectors. The course provides an overview of the FRA requirements for using civil penalties as a compliance tool, gathering applicable documents to support the claim, and the steps necessary to properly prepare the report. The course consists of a series of short interactive lectures, using a slide presentation and participant guides, followed by practical exercises involving realistic scenarios for each learning module. A building block concept is used and incorporated into practical exercises of each module, so that learning lessons are reinforced throughout the course. There is a multiple choice pre and post test designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the conclusion of the training, participants will be able to:

1. List the enforcement actions available to effectively handle non-compliant hazmat issues.
2. Gather the documents needed to support the violation report.
3. Determine if individual civil penalty actions are appropriate.
4. Prepare a F6180.110 violation report.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *HM 211* | *24* | *None* | *FRA* |

***Course Name***

HM Recurrency 2006

***Description and Objectives***

Description: This course is intended for all Federal and State hazmat inspectors and specialists. The curriculum provides an overview of the knowledge and skills required to conduct an inspection of intermodal operations involving shipments of hazardous materials. The course focuses on current IMDG Code requirements, tracking hazmat documents handled by third parties, and a comprehensive study of intermodal packagings (i.e. - portable tanks, IBC's, freight containers, and non-bulk packagings). A series of short interactive lectures/demonstrations using a slide presentation, training aids, and participant guides will be utilized. The training modules will be followed by practical exercises. There is a multiple choice pre and post test designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: After successfully completing the course, each participant will be able to:

1. Understand the rapid evolvement and globalization of intermodal operations involving national and international shipments of hazardous materials.
2. Identify the applicable IMDG Code requirements and their relationship with DOT Code of Federal Regulations.
3. Describe the numerous intermodal packagings and their appurtenances used to ship hazardous materials.
4. Find the responsible party involving a non-compliant intermodal shipment, where multiple parties are involved.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *MP&E 201* | *32* | *None* | *FRA* |

### *Course Name*

MP&E Fundamentals - Phase One

### *Description and Objectives*

Description: This course provides recently hired MP&E Inspectors with the knowledge, skills and abilities necessary to perform inspections at their grade level. The course includes instruction on the MP&E Compliance Manual, Code of Federal Regulations (49 CFR), and the Single Car Air Brake Test (SCT) Manual. New inspectors learn the specific methodologies related to Locomotives (229), Safety Appliances, (231) Power Brakes and Drawbar Heights (232), Freight Car Safety Standards (215), Locomotive and Car Glazing Standards (223), Blue Signals (218), Rear of Train Markers (221).

Objectives: At the completion of this course, participants will be able to:

1. Apply appropriate MP&E regulations when performing site inspections.
2. Recognize deviations from the regulations.
3. Prepare an F6180.96 inspection report based on a given scenario.
4. Understand an individual employee's compliance responsibilities.
5. Assess whether railroads use proper sequential steps when performing single car tests.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *MP&E 205* | *24* | *None* | *FRA* |

### *Course Name*

MP&E Fundamentals - Phase Two

### *Description and Objectives*

Description: This course provides recently hired MP&E Inspectors with the knowledge, skills and abilities necessary to perform inspections at their grade level. There is an overview of various MP&E activities in connection with inspection reports, violation reports, special notice for repair reports, activity codes, defect/non-defect codes, and the MP&E Compliance Manual. The course consists of a series of short interactive lectures using a slide presentation, participant guides, and job aids, followed by practical team exercises for each learning module.

Objectives: At the completion of the course, participants will be able to:

1. Prepare a MP&E Violation Report (F6180.109), based on a given scenario.
2. Prepare a Special Notice for Repair Report (F6180.8), based on a given scenario.
3. Recall appropriate MP&E activity codes.
4. Use appropriate MP&E defect/non-defect codes.
5. Use the MP&E Compliance Manual.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *MP&E 206* | *22* | *None* | *FRA* |

***Course Name***

MP&E Recurrency 2005

***Description and Objectives***

Description: This course is intended for journey level MP&E inspectors and specialists. The course will provide participants with the in-depth knowledge, skills, and abilities necessary to (1) perform specific inspections of freight cars and their components in order to determine compliance with Federal regulations, and (2) to determine when locomotive safety systems have been properly inspected and tested. The course consist of a series of short interactive lectures using slide presentations, participant guides, job aids, and lab demonstrations, followed by practical exercises.

Objectives: At the completion of the course, participants will be able to:

1. Apply FRA standards when inspecting Constant Contact Side Bearings (CCSB's).
2. Apply FRA regulations pertinent to restrictions of maintenance-of-way equipment.
3. Apply FRA standards when inspecting locomotives.
4. Identify locomotive safety systems and assess their proper operation.
5. Access data from locomotive event recorders.
6. Discuss event recorder data based on given scenarios.
7. Apply safety glazing standards.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *MP&E 207* | *24* | *None* | *FRA* |

***Course Name***

MP&E Recurrency 2006

***Description and Objectives***

Description: This course is intended for MP&E inspectors and specialists. The course will provide participants with the in-depth knowledge, skills, and abilities necessary to (1) perform specific inspections of freight cars and locomotives, in order to determine compliance with the new Federal regulation 49 CFR, Part 224 - Reflectorization of Freight Rolling Stock, (2) to successfully navigate through the latest RISPC program, and (3) to recognize deviations in the application of safety appliances, and how to address those deviations in 49 CFR, Part 231 - Railroad Safety Appliance Standards.

The course consists of a series of interactive lectures using PowerPoint presentations, participant guides, job aids, and practical exercises covering individual modules. There is a multiple choice, pre and a post test, designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the completion of the course, participants will be able to:

1. Be aware of the history, purpose and scope of 49 CFR, Part 224 - Reflectorization of Freight Rolling Stock.
2. Apply 49 CFR, Part 224 during field inspections.
3. Recognize specific fields and parameters in the latest revised RISPC program.
4. Select appropriate sources of information within the RISPC program.
5. Recall the Railroad Safety Appliance Act.
6. Recall 49 CFR, Part 231 - Railroad Safety Appliance Standards.
7. Understand how Forms FRA F6180.4 and 4A’s are applied to federal regulations.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *OP 201A* | *24* | *None* | *FRA* |

### *Course Name*

OP Fundamentals - Phase One

### *Description and Objectives*

Description: This course is intended for recently hired Operating Practices Inspectors. This course introduces the participants to 49 CFR parts 217, 218, 220 and 221 and includes a review of the OP Compliance Manual with emphasis on the Focused Inspection approach and the Switching Operations Fatality Analysis initiative. There is a 25 question, multiple choice, pre and post test that is designed to evaluate participant knowledge levels at the beginning and end of the course. The course mixes classroom lectures with practical exercises to achieve an application level of learning of the topics covered.

Objectives: At the conclusion of this course, participants will be able to:

1. Select the appropriate methods for addressing safety issues identified during inspections.
2. Understand the philosophy of operations testing.
3. Prepare to conduct onboard train inspections and yard inspections.
4. Apply blue signal protection and utility employee provisions of Part 218 within a railroad yard.
5. Apply 49 CFR Part 220 and associated railroad operating rules.
6. Apply 49 CFR Part 221.
7. Understand the components of SOFA.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *OP 207A* | *22* | *None* | *FRA* |

### *Course Name*

OP Fundamentals - Phase Two

### *Description and Objectives*

Description: This course is intended for all Operating Practices Inspectors. There are seven learning modules covering waiver petitions, enforcement actions against railroads, inspection reports, complaint investigation, individual liability and violation reports. The course consists of a series of lectures using PowerPoint presentations and participant guides, followed by practical exercises for each of the modules. The participants, using a given practical exercise, write a complaint investigation memorandum, inspection report, violation report and a regional warning letter. A building block concept is used for the practical exercises so that the learning lessons are reinforced throughout the course. There is a 25 question, multiple choice, pre and post test that is designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the conclusion of this course, participants will be able to:

1. List the procedures for issuance of a permanent or temporary waiver petition.
2. Prepare an inspection report (6180.96) based on a given practical exercise.
3. Perform complaint investigations in accordance with FRA policy.
4. Prepare a complaint investigation memorandum based on a given scenario.
5. Identify the six types of enforcement tools available against railroads, and the seven factors that should be analyzed in determining whether or not to recommend civil penalties.
6. Prepare violation reports.
7. Identify the types of individual liability tools available for use by FRA.
8. Write a Regional Warning Letter for Individual Liability based on a given scenario.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *OP 213* | *32* | *None* | *FRA* |

### *Course Name*

Operational Testing & Human Performance Science

### *Description and Objectives*

Description: This course is intended for all OP Inspectors and Specialists. It will provide an overview of 49 CFR Part 217 (Railroad Operating Rules), with special emphasis on 217.9 (Program of Operational Tests and Inspections), and the Science of Human Performance. There are learning modules covering FRA's authority under Part 217, with a focus on comparing OP inspector records, railroad operational testing records, and field monitoring of operational testing sessions. The course also teaches inspectors to apply the Science of Human Performance when accompanying railroad officers during testing sessions and discussing safety with employees.

Objectives: At the completion of the course, participants will be able to:

1. Categorize operating rules for review.
2. Analyze a railroad's operational testing records.
3. Monitor a railroad's operational testing sessions.
4. Compare data from railroad records with FRA inspection data and operational testing sessions.
5. Assess a railroad's program of instruction on operating rules.
6. Resolve Part 217 compliance problems.
7. Use knowledge of Human Performance Science when discussing safety with railroad employees and officers.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *OP 214* | *32* | *None* | *FRA* |

***Course Name***

OP Recurrency 2006

***Description and Objectives***

Description: This course is intended for all OP Inspectors and Specialists. It will provide an overview of basic auditing techniques that can be applied to any railroad program. It will also prepare them to apply these techniques when auditing railroads for compliance with 49 CFR Parts 219, 225, and 240. The course mixes classroom lectures with practical exercises to achieve an application level of learning of the topics covered.

Objectives: At the completion of the course, participants will be able to:

1. Develop an audit plan.
2. Conduct a comprehensive accident/incident reporting audit.
3. Assess a railroad's compliance with post-accident testing requirements.
4. Assess the basic elements of a railroad locomotive engineer certification program.
5. Write an audit report.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *OP 215* | *24* | *None* | *FRA* |

***Course Name***

Occupational Illness Reporting

***Description and Objectives***

Description: This course is intended for a select number of Chief and Operating Practices Inspectors. It will provide an overview of 49 CFR Part 225 (Railroad Accident/Incidents: Report, Classification and Investigations), with an emphasis on occupational illnesses. Interactive lectures, followed by case studies, will be used to simulate the application level learning of the topics.

Objectives: At the completion of the course, participants will be able to:

1. Explain the reporting requirements for occupational illnesses of railroad employees.
2. Determine if allegations or records inspections disclose FRA reportability.
3. Prepare appropriate inspection and violation reports associated with reviewing these cases.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *S&TC 201* | *32* | *None* | *FRA* |

***Course Name***

S&TC Fundamentals - Phase One

***Description and Objectives***

Description: This course is intended for all recently hired Federal and State S&TC inspectors who may be assigned to perform FRA inspections, complaint investigations, and other general duties associated with an FRA S&TC Inspector's position.

The course consists of a series of short interactive lectures using PowerPoint presentations and participant guides, followed by practical team exercises. The participants, using practical exercises, prepare inspection reports, list inspection priorities, practice how they would approach certain inspections and investigations of signal systems, and learn signal system terminology and definitions. A building block concept is used for the practical exercises so that the learning lessons are reinforced throughout the course. There is a multiple choice, pre and post test designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the completion of the course, participants will be able to:

1. List the proper sequence of events involved in performing a signal system inspection.
2. List the various inspection and enforcement tools available while inspecting railroads.
3. Write a brief memorandum report detailing defective conditions to various signal system scenarios.
4. Write a brief technical summary report using industry standard terminology and FRA definitions.
5. Identify various signal systems, including related operating rules and methods of operation utilized in the railroad industry.
6. Identify various highway grade crossing signal systems, including the review of special grade crossing operating rules and special instructions.
7. List the proper regulation to be used when citing defective railroad S&TC conditions.
8. Recognize appropriate inspection procedures and how to establish good rapport with industry customers.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *S&TC 206* | *24* | *None* | *FRA* |

***Course Name***

S&TC Fundamentals - Phase Two

***Description and Objectives***

Description: This course is intended for all Federal S&TC Inspectors, State S&TC Inspectors, S&TC Specialists, and Chief Inspectors with a S&TC background, who may be assigned to perform an FRA inspection, complaint investigation, block signal application or waiver investigation, false proceed signal investigation, violation report, or individual liability action. There are 7 learning modules covering the objectives listed below.

The course consists of a series of short interactive lectures using PowerPoint presentations and participant guides, followed by practical team exercises. The participants using the given practical exercise write a complaint investigation memo, inspection report, violation report, signal application report and a regional warning letter. A building block concept is used for the practical exercises so that the learning lessons are reinforced throughout the course. There is a multiple choice, pre and post test designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the completion of the course, participants will be able to:

1. List the procedures and requirements necessary for investigating block signal application, RS&I waiver investigations and false proceed signal investigations,
2. List the enforcement actions available against railroads,
3. Explain the proper procedures for handling complaints from start to finish,
4. Write a complaint report based on the given scenario,
5. Write a signal inspection report using FRA's computer-based RISPC system,
6. Write a violation report using a Form FRA F6180.67 violation report,
7. Explain if individual civil penalty actions are necessary because the conduct is willful, and
8. Write a regional individual liability warning letter.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *S&TC 213* | *32* | *None* | *FRA* |

***Course Name***

S&TC Recurrency 2006

***Description and Objectives***

Description: This course is intended for all Federal and State S&TC inspectors who may be assigned to perform Part 234 and 236 inspections, and perform other duties associated with the related changes to Parts 234 and 236.

The course consists of a series of short interactive lectures using PowerPoint presentations and participant guides, followed by practical exercises. The participants will understand the inspection of microprocessor controlled train control systems and other products covered under Subpart H, evaluate software management control plans, explain the inspection of cab signal and automatic train control systems, explain and practice the investigation of crossing signal activation failures. A building block concept is used for the practical exercises and the learning lessons are reinforced throughout the course. There is a multiple choice, pre and post test designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the completion of the course, participants will be able to:

1. Understand the inspection of signal and train control equipment subject to Part 236, Subpart H.
2. Recall the elements of Product Safety Plans and Railroad Safety Program Plans.
3. Assess software management control plans.
4. Explain the inspection of cab signal and automatic train control systems.
5. Understand the investigation procedures regarding crossing signal activation failures.
6. Write an activation failure investigative report.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *Track 201* | *32* | *None* | *FRA* |

### *Course Name*

Track Fundamentals - Phase One

### *Description and Objectives*

Description: This course introduces new Track Inspectors to 49 CFR Part 213 Subparts A-F Track Safety Standards, general railroad industry safety requirements, and personal safety requirements, when inspectors are on or about the railroads' tracks or property. The course combines classroom learning examples with practical field exercises to gain hands-on experience about the rail industry.

Objectives: At the completion of this course, participants will be able to:

1. Use personal safety equipment when conducting a track inspection.
2. Relate commonly used track terms to actual components in the track structure.
3. Interpret a typical railroad timetable and track chart/profile.
4. Use the inspection tools that are necessary to conduct a track inspection.
5. Interpret and analyze data generated by the Automated Track Inspection Program.
6. Clarify the minimum requirements for each subpart of 49 CFR Part 213.
7. Apply the Track Safety Standards and the Track Compliance Manual guidelines during inspections.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *Track 205* | *32* | *None* | *FRA* |

***Course Name***

Track Fundamentals - Phase Two

***Description and Objectives***

Description: This course is intended for all new Track Inspectors. There are six learning modules covering waiver petitions, enforcement actions against railroads, complaint investigations, inspection reports, individual liability, and violation reports.

The course consists of a series of short interactive lectures using PowerPoint presentations and participant guides, followed by practical team exercises. A building block concept is used for the practical exercises so that the learning lessons are reinforced throughout the course. There is a multiple choice, pre and post test designed to evaluate participant knowledge levels at the beginning and end of the course.

Objectives: At the completion of the course, participants will be able to:

1. List the procedures for issuance of a permanent or temporary waiver petition.
2. List the enforcement actions available against railroads.
3. Write a narrative complaint investigation report.
4. Complete a track inspection report.
5. Write a violation report using Form FRA F6180.67.
6. Determine if individual civil penalty actions are advisable for willful conduct.
7. Prepare a regional warning letter for individual liability.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *Track 206* | *22* | *None* | *FRA* |

***Course Name***

Track Recurrency 2005-2006

***Description and Objectives***

Description: This course introduces the participants to the principles of CWR, track geometry car operational safety, and DTN (Digital Track Notebook) geometry principles. The principles, characteristics, and safety critical procedures associated with CWR and sample CWR programs will be evaluated for compliance with FRA's minimum safety standards. The operational safety and primary responsibilities assigned to OP and Track inspectors, and safety rules and data parameters generated by the track geometry cars will be reviewed. The course builds on the fundamentals taught in Track 204B, including DTN technology. The training associates the higher geometry functions of quick calculations on simplified worksheets that automate evaluation of equations in the track safety standards. These calculations include crosslevel, warp, alinement, rockoff, excessive elevation, runoff, twist 31, and gage.

Objectives: At the completion of this course, participants will be able to:

1. Identify the safety critical procedures necessary for maintaining the lateral stability of CWR track.
2. Evaluate CWR programs to determine their compliance with minimum standards.
3. Identify the responsibilities assigned to OP and Track inspectors when riding an FRA track geometry vehicle.
4. List the eight data parameters generated by FRA's track geometry vehicle.
5. Interpret geometry data, from the practice CD, to identify track exceptions.
6. Compute values using the DTN automated quick calculation methods for crosslevel, warp, alinement, rockoff, excessive elevation, runoff, twist 31, and gage from the practical exercises.

| *Course_ID* | *Hours* | *Prerequisite* | *Source* |
|---|---|---|---|
| *Track 207* | *24* | *None* | *FRA* |

***Course Name***

Track Recurrency 2006

***Description and Objectives***

Description: This course is an in depth study of current and newly promulgated compliance manual interpretations for the Track Safety Standards - Subparts A-F and Workplace Safety Standards - Subpart D. Students will participate in highly interactive team scenarios to determine the intent, uniform interpretation, and application of Federal standards. The participants will select from the compliance manual the interpretation that applies to each scenario by accessing Reg Trieve on their computer or DTN.

Objectives: At the completion of this course, participants will be able to:

1. Select the compliance manual interpretation that applies to the given Track Safety Standard scenario.
2. Select the compliance manual interpretation that applies to the given Roadway Maintenance Machine scenario.